

We claim:

1. A method of continuously harvesting grain from at least one row of mature grain plants growing in first row segments and intermittently interrupted by an alley segment where no grain plants exist, comprising:
 - 5 straddling the row with a wheel-mounted harvester having a harvesting head to remove grain from the grain plants in the row and delivering the removed grain upwardly and rearwardly for deposit in a grain handling assembly comprised of a plurality of grain moving parts for delivery of the removed grain to a grain collection hopper with separate collection bins,
 - 10 supplying power means on the harvester for operating the harvesting head and the grain moving parts and for permitting the harvester to selectively continuously move longitudinally over the row segments and the alley segments between the row segments,
 - 15 control means on the combine for selectively interrupting at least one of the grain moving parts as soon as the last plant in a first row segment is harvested so that no new harvested grain from a second and next adjacent row segment will be commingled with the harvested grain from the first row segment, and causing harvested grain from the second row segment to temporarily accumulate adjacent the grain moving part that is temporarily stopped, and
 - 20 actuating the power means to restart the stopped grain moving part after a period while the harvesting head is harvesting plants in the second row segment, and
 - 25 transporting the harvested grain from separate row segments into the separate collection bins to permit the separate evaluation of the harvested grain in each row segment,
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moving the harvester along the row at a continuous and constant rate of speed to avoid the necessity of stopping the combine at each alley to effect the separate evaluation of the harvested grain from aligned
5 separate row segments in all row segments adjacent each alley.

2. The method of claim 1 wherein the grain moving part selectively interrupted by the control means is a set of drag
10 chains for gathering harvested grain downstream of the harvesting head operatively connected to the control means and the power means to selectively be stopped from operating.

3. The method of claim 1 wherein the grain moving part
15 selectively interrupted by the control means is a cross auger for gathering harvested grain downstream of the harvesting head operatively connected to the control means and the power means to selectively be stopped from operating.

20 4. The method of claim 1 wherein the final ground speed of the harvester is substantially constant in a speed range of 0.0700 ft/sec to 1.687 feet/second.

5. The method of claim 1 wherein the length of the row
25 segments varies between 3 and 25 feet, and the length of the alley segments varies between 12 and 48 inches.

6. The method of claim 1 wherein the period is quantified by time.

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7. The method of claim 1 wherein the period is quantified by distance.

8. The method of claim 1 wherein the combine straddles a plurality of rows and performs the aforesaid method on each row.

9. A wheel mounted grain harvester having a grain harvesting head capable of harvesting grain from mature grain plants in a row of mature grain plots comprising a plurality of longitudinal spaced row segments spaced intermittently by aligned alley segments, removing grain from the grain plants in the rows and delivering the removed grain upwardly and rearwardly for deposit in a grain handling assembly comprised of a plurality of grain moving parts for delivery of the removed grain to a grain collection hopper, the invention comprising control means on the harvester for selectively interrupting at least one of the grain moving parts as soon as the last plant in a first row segment is harvested so that no new harvested grain from a second and next adjacent row segment will be commingled with the harvested grain from the first row segment, causing harvested grain from the second row segment to temporarily accumulate adjacent the grain moving part that is temporarily stopped, and selectively restarting the stopped grain moving part after a period while the harvesting head is capable of harvesting a first plant in the second row segment, means for transporting the harvested grain from separate row segments into separate collection bins to permit the

separate evaluation of the harvested grain in each row segment, and means for moving the harvester along the row at a continuous and constant rate of speed to avoid the necessity of stopping the harvester at each alley to effect the separate evaluation of the harvested grain from aligned separate row segments in all row segments adjacent each alley.

10 10. The apparatus of claim 9 wherein the grain moving part selectively interrupted by the control means is a set of drag chains for gathering harvested grain downstream of the harvesting head operatively connected to the control means and the power means to selectively be stopped from operating.

15 11. The apparatus of claim 9 wherein the grain moving part selectively interrupted by the control mans is a cross auger for gathering harvested grain downstream of the harvesting head operatively connected to the control means and the power means to selectively be stopped from operating.

12. The apparatus of claim 9 wherein the period is quantified by time.

25 13. The apparatus of claim 9 wherein the period is quantified by distance.

14. A wheel mounted grain harvester having a combine attached to a grain harvesting head capable of harvesting grain from mature grain plants in a row of mature grain plots comprising a plurality of longitudinal spaced row segments

spaced intermittently by aligned alley segments, removing grain from the grain plants in the rows and delivering the removed grain upwardly and rearwardly for deposit in a grain handling assembly comprised of a plurality of grain moving parts for delivery of the removed grain to a grain collection hopper, the invention comprising:

a movable blocking wall located along the grain handling assembly which blocks the flow of grain along the grain handling assembly when closed,

control means on the harvester for selectively closing the blocking wall as soon as the last plant in a first row segment is harvested so that no new harvested grain from a second and next adjacent row segment will be commingled with the harvested grain from the first row segment, causing harvested grain from the second row segment to temporarily accumulate adjacent blocking wall, and selectively opening the blocking wall a period while the harvesting head is capable of harvesting a first plant in the second row segment,

means for transporting the harvested grain from separate row segments into separate collection bins to permit the separate evaluation of the harvested grain in each row segment, and

means for moving the harvester along the row at a continuous and constant rate of speed to avoid the necessity of stopping the harvester at each alley to effect the separate evaluation of the harvested grain from aligned separate row segments in all row segments adjacent each alley.

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15. The method of claim 14 wherein the combine straddles a plurality of rows and performs the aforesaid method on each row.
- 5 16. The apparatus of claim 14, wherein the movable blocking wall is mounted on the harvester between a grain transfer assembly and a combine portion of the harvester to periodically interrupt the flow of harvested grain.
- 10 17. The apparatus of claim 14 wherein the movable blocking wall is mounted on the harvester between a cross auger and the grain transfer assembly to periodically interrupt the flow of harvested grain.
- 15 18. The apparatus of claim 14 wherein the period is quantified by time.
19. The apparatus of claim 14 wherein the period is quantified by distance.